2002 Fire Weather Summary

NWS RENO

ANNUAL FIRE WEATHER OPERATIONAL REPORT - 2002

1. Reno Meteorologists Participating in the Fire Weather Program:

Fire Weather Program Leader: Rhett Milne
Fire Weather Forecasters: Wendell Hohmann, Mark Deutschendorf
All operational Forecasters: 5 Senior Forecasters and 4 General Forecasters
MIC, WCM, and SOO
2 HMT's and DAPM,1 Met Intern and 1 Student Trainee (June-August)
2002 season Red Flag Verification: **POD 0.94, FAR 0.22, CSI 0.74**, with average warning lead time of **13.7 hours**.
Additional details are in Quattro Pro file **2002 Reno Verification.qpw**
This file can be obtained on request.

The file contains five charts: Chart A: Summary of Verification stats
Chart B: Monthly/Seasonal totals of forecasts, spots, IMET days, etc.
Chart C: Details for each Red Flag event by zone–all types.
Chart D: Details for each Red Flag event by zone–lightning only.
Chart E: Details for each Red Flag event by zone–non-lightning only.

New arrivals at WFO Reno included Met Intern Larry Brown. Departures included SOO Mary Cairns at the end of June.

The HMT's/DAPM/Met Intern/Trainee assisted in the daily fire weather duties by gathering RAWS weather data from the previous day.

2. Season Duration and Overview

The 2002 fire season at NWS Reno began on May 28 with detailed Fire Weather Forecasts and dedicated shift coverage (starting at 7:30 AM for 8-9 hours) 5 days a week. The dedicated shifts expanded to 7 days a week after June 10.

Despite continued warm and dry conditions through the early fall, fire activity remained minimal. After coordinating with the fire agencies, NWS Reno reduced the dedicated fire weather shift coverage to 5 days a week starting on October 4, and ended the fire season by issuing its final detailed Fire Weather Forecast on Tuesday October 15. Even in the offseason, NWS Reno continues to provide Spot Forecasts for wildfires or non-wildfire operations 24 hours a day, 365 days a year.

After another winter with below average snowpack, and dry and hot conditions through most of the summer with very low fuel moistures, conditions were ripe for a potentially extreme fire season. Several states in the Western U.S. experienced wildfires of record size and intensity. However, lightning activity in northeast California and western Nevada was much below normal during the 2002 fire season, while strong wind events were also sparse. As a result, fire activity and acreage burned was below the 10 year average, and much below the total acreage burned from each of the previous three fire seasons. Other than a small portion of northern Mono county from Topaz Lake to Walker and Coleville in June and July, and near the Heavenly ski resort in early July, wildfires generally had little impact on populated areas in the Reno fire weather forecast area in 2002.

3. Reno, Nevada FW Zones.....NV 450, 453, 458, 459
CA 570, 572, 542, 576
Three practice zones in northeast CA (RDD, SAC, RIV)

New zones: Zone 458 – northern and central Washoe county.

Zone 459 – Mineral county and southern Lyon county.
Reconfigured: Zone 570 – Surprise Valley in eastern Modoc county.
Zone 572 – eastern Lassen county and south central Modoc county.
Zone 450 – Reno and Carson Valley areas, including Douglas and Storey counties.
Zone 453 – Pershing, Churchill, northern Lyon counties, and Pyramid Lake.
Eliminated: Zone 571.
Unchanged: Zones 542 and 576.

4. Forecasts Issued: Includes general and spot forecasts, IMET dispatches etc.

More information on these topics can be obtained by requesting Quattro Pro file **2002 Reno Verification.qpw**.

5. Month-by-Month Summary of Weather and Fire Activity in the Reno Forecast Area.

May – May 2002 was slightly above normal for temperatures, with the final three days being much warmer than the remainder of the month. Precipitation was below normal with 0.20 inch recorded at the Reno airport. Several cold fronts moved through the forecast area during the month, with the strongest front producing winds in excess of 40 mph on the 19th, but humidities were too high for red flag criteria. 10 hour fuel moistures were in the 4-8% range, with live fuel moistures in the 130 to 200 percent range by the end of May.

No large wildfires occurred over the Reno Forecast Area in May.

June – June 2002 was about 5 degrees warmer than normal, being the fifth warmest June on record in Reno. The only exception to the warm weather occurred after a cold front passage on the 7th, resulting in below normal conditions from the 8th through the 10th. Dry conditions prevailed for most of the month, with 0.10 inch reported at the Reno airport. Thunderstorm activity was very sparse, with only a few storms observed mainly near the mountains of Zones 450 and 576. Fuel conditions became very dry with 10 hour fuel moistures generally 5% or lower by the end of the month. Live fuel moistures dropped to the 80-120% range by late June, except 110-150% range in northeast California and central Nevada; these values are more typical of mid summer conditions.

The lack of significant lightning combined with ample firefighting resources kept wildfire activity light, with one major exception–the "Cannon" fire. This human caused fire began on June 15th in northern Mono county near Walker and spread very rapidly during the next several days, consuming about 22,750 acres. The town of Walker was evacuated for a few days and US 395 was closed for almost two weeks. Only one residence was lost in this blaze. Three deaths resulted from the crash of an air tanker involved in firefighting activity on June 17th. The fire was fully contained by June 28th. Nationally, Planning Level 5 was declared on June 21st.

July – The first half of the month was marked with extreme heat, especially between the 9th and the 12th, which led to July being the warmest on record for any month in Reno. All time record highs were set at several locations on the 10th and 11th, including 108 degrees at Reno. Monsoon moisture began moving into the region on the 11th and 12th, with widespread lightning on the 12th through 14th. Little rain fell on the 12th while the storms on the 13th and 14th were wetter. Red flag warnings were issued in all zones on the 11th and 12th, with the red flag criteria met on both days in different ways–by extreme heat and single digit humidity with isolated lightning strikes in the 11th, followed by widespread lightning with only isolated reports of significant rainfall on the 12th. An upper low moving slowly through central California and western Nevada produced scattered to numerous thunderstorms with wetting rains on the 17th and 18th. Lower temperatures and increased humidity associated with this low also helped to reduce fire activity. The remainder of the month was dry with temperatures near or slightly above normal, except for a return of isolated thunderstorms on the 31st.

Fire activity increased in July, although combined acreage burned in large fires was slightly lower than June's Cannon fire. The first large fire of the month occurred on July 3rd at the Heavenly Ski Resort south of Lake Tahoe. This human caused "Gondola" fire spread to about 670 acres before being contained on the 6th. The most active days for lightning-ignited fires occurred July 12-14 with numerous new starts, including nine large fires and fire complexes. Each zone except 459 and 542 had at least one large fire in this period. "Annie" in northern Surprise Valley (300 acres) and "Horse Complex" in central Lassen county (1600 acres) were contained in three days, while the "Pan" fire in northern Mono county (500 acres) and the "Rush" fire (5000 acres) in eastern Lassen county were contained in four days. Two other fires in rural areas, the "Tin Canyon" fire (1000 acres) in central Washoe county and "Pony Express" (2000 acres) in eastern Churchill county were also contained in about a week. The largest fire was the "Slinkard" fire which became part of the Gate Complex. This fire exploded in size near Topaz Lake on the 13th, forcing evacuations and road closures of three highways including US 395. Increased humidity and moderate rainfall aided to contain this fire on the 19th at 8650 acres. Total area burned in the Gate Complex was just under 10000 acres. Northern Mono county was also the site of the final large wildfire of the month, the "Silver 2" fire not associated with lightning, which started on the 27th and was contained on the 31st at 600 acres. The National Planning Level remained at Level 5 through the entire month.

August – The month began with a change in the weather pattern as numerous showers and thunderstorms with wetting rains occurred over portions of the region on the 1st and 2nd, with a few locations receiving over an inch of rainfall. A strong upper level trough then set up along the west coast, producing increased southwest winds while sending daytime temperatures 5-15 degrees below normal for the longest sustained period (August 4-8) since mid June. Despite the lower temperatures, humidities also dropped while winds increased, prompting the issuance of a Red Flag Warning for the 5th. Temperatures warmed up to above normal between the 10th and 18th with continued low humidities as a ridge built over the western US. This ridge weakened as a cold front passed through Nevada on the 19th, dropping temperatures to near or slightly below normal for the remainder of the month with occasionally breezy conditions. Dry conditions absent of thunderstorm activity continued through the 27th. A weak trough of low pressure produced isolated thunderstorms during the final four days of the month, with the greatest coverage on the 30th. A Red Flag Warning was issued for the 30th due to the increased coverage of thunderstorms with potential for dry lightning. Most of the lightning occurred in Churchill, Pershing and northern Washoe counties, but no large fire starts occurred with this lightning.

August was one of the least active fire months in several years, as only one large wildfire occurred during the month. On the 19th, the crash of a small plane into forest land southeast of Echo Summit near the El Dorado and Alpine county line sparked the "Showers" wildfire, which was contained two days later at 300 acres. National Planning Level was reduced to Level 4 on 13th, but then raised back to Level 5 on the 20th, before being reduced to Level 4 again on the 29th.

September – The first three days were warm and dry with increased southwest winds prompting the issuance of a Red Flag Warning on the 3rd over most of the forecast area. A transition to much cooler weather began on the 4th as a strong and cold upper trough formed off the west coast. Scattered showers with light rain occurred on the 6th, followed by dry and cool weather through the 8th. Dry weather continued through the middle of the month as temperatures warmed up gradually through the 13th, then another trough lowered temperatures and increased winds by the 15th. This wind combined with low humidities prompted the issuance of a Red Flag Warning. In addition, scattered thunderstorms developed over extreme northeast California and into northwest and west central Nevada during the late afternoon, and continued overnight in eastern Churchill and Pershing counties. Dry weather with near normal temperatures followed for the next few days, warming to unseasonable levels from the 20th through the 24th, followed by steady cooling beginning on the 25th. A major shift in the upper air pattern brought much cooler air over the region for the final three days of the month, with a weak disturbance producing scattered showers and thunderstorms over portions of Mineral and Mono counties on the 28th. Light snow fell in the highest elevations of Mono County above 10,000 feet.

Fire activity was light again in September. The lightning on September 15 sparked the "Two Tips" wildfire in extreme northwest Churchill county. This fire was contained on the 17th at about 950 acres. Another fire not associated with lightning, the "Toulon" fire, began on the 29th near Lovelock and was contained a day later at 1160 acres. No other large wildfires occurred over Reno's current operational forecast area, although two fires not associated with lightning occurred in the Reno practice zones. The "Paiute" fire near the Mono and Inyo county line began on the 24th and was contained on the 29th around 400 acres. The "Cone" fire in western Lassen county began on the 26th and was contained on the 29th at 2000 acres. Nationally, the Planning Level was quickly reduced to Level 3, then to Level 2 during the first two weeks of the month.

October – A strong trough of low pressure brought very cool air to the region as October began, with scattered rain and snow showers on the 1st, producing light snow accumulations over portions of Mono county and higher elevations around Lake Tahoe. More light rain fall over portions of western Nevada during the evening and late night hours on the 3rd, but the remainder of the first half of October was dry. A gradual warming trend occurred between the 4th and the 7th as a ridge built off the west coast, followed by a weakening of this ridge. On the 10th, a low pressure trough brushed across the northern portions of the Great Basin, increasing winds and dropping temperatures to slightly below normal on the 11th and 12th. The ridge redeveloped off the west coast, bringing another gradual warming trend through the 15th, the final day of NWS Reno's 2002 fire season.

No large wildfires occurred on the Reno fire weather forecast area through October 15th.

6. IMET Dispatches

Rhett Milne and Wendell Hohmann both began the season as IMET trainees. Rhett was dispatched to two fires in June, and two fires in July. Rhett became certified as an IMET on the East Fork fire in mid-July and completed his first completely solo assignment at the Sheldon Ridge fire. A quick reduction in national fire activity late in the summer closed off opportunities to send Wendell on IMET training through at least mid-October.

IMET Dispatches for Rhett Milne:

1.	Bullock (S AZ)	May 30-June 5 (trainee)
2.	Cannon (EC CA)	June 19-24 (trainee)
3.	East Fork (NE UT)	July 15-22 (trainee/certified)
4.	Sheldon Ridge (NW OR)	July 26-August 1 (certified)

7. Liaison Work and Training

Rhett Milne attends monthly Sierra Front Interagency Cooperators meetings.

Roger Lamoni and Rhett Milne went to the Camino Interagency Dispatch Office in February and met with dispatchers and went over products and services offered by NWS-Reno.

Rhett Milne and Wendell Hohmann went to the Doyle BLM Fire Station in April.

Rhett Milne and Wendell Hohmann went to the Susanville Interagency Dispatch in April.

Rhett Milne and Wendell Hohmann went to the Cedarville BLM office on April 22nd.

Rhett Milne and Wendell Hohmann went to Lakeview Interagecy Dispatch Center April 24th. They also went to the Lakeview BLM office.

Rhett Milne and Wendell Hohmann went to Central Nevada Dispatch in Winnemucca, NV on April 24th and reviewed the Western Great Basin Fire Weather Operating Plan.

Rhett Milne went to the Minden Interagency Fire Center in Minden, NV on May 8th and gave a presentation.

Rhett Milne gave a presentation at the 2002 Nevada Wildland Fire Safety Summit in Reno, NV on the NWS-Reno fire weather program and the transition of fire weather services in California.

Rhett Milne gave a presentation to the Sierra Front Type II Incident Management Team on May 22nd, and provided an outlook for the upcoming fire season and services provided by NWS-Reno.

Rhett and Wendell attended the 2002 IMET Workshop in Boise, ID during the second week of March 2002. Rhett also completed the S-591 fire weather forecasting course in Boise.

Jane Holllingworth and Rhett Milne went to the Lassen National Forest Headquarters in Susanville, CA in November.

Jane Hollingworth and Rhett Milne went to the Plumas National Forest Headquarters in Quincy, CA on December 5th.

There were no requests for fire weather instruction in the Reno forecast area in 2002.

8. New Technology and Transition of Fire Weather Responsibility

Web based spots using the WRSPOT program continued successfully in 2002 and remain the preferred method for spot forecast requests. A national version of the web based spot forecasts using the WRSPOT format is scheduled to be implemented during the 2003 fire season.

ITO David Pike at NWS Reno revised the Public Product Formatter on AWIPS to include fire weather products for the current zones and the practice zones. This replaced the 2001 Fire Weather Menu program and further assisted the forecasters in creating fire weather products by including headers and transferring information from previous forecasts as a starting point for the new forecasts.

The Interactive Forecast Preparation System (IFPS) was installed at WFO Reno and included several weather elements related to fire weather, but the text formatter were determined to be premature for implementing IFPS into the fire weather products for the 2002 season.

Transition for fire weather responsibility in California began in 2002 with WFO Reno issuing practice fire weather products for western portions of Lassen county and the eastern half of Plumas and Sierra counties from the Redding IFWWU, a small portion of eastern Nevada and Placer counties from WFO Sacramento, and the southern half of Mono County from the Riverside IFWWU. WFO Reno expects to assume full responsibility for these locations for the 2003 season.